

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of)
)
United States Cellular Corporation Request for)
Waiver of 47 C.F.R. § 17.47(b))
)
)

MEMORANDUM OPINION AND ORDER

Adopted: May 27, 2015

Released: May 27, 2015

By the Associate Chief,
Wireless Telecommunications Bureau:

I. INTRODUCTION

1. This *Memorandum Opinion and Order* addresses the request of United States Cellular Corporation (USCC) for waiver of Section 17.47(b) of the Commission’s rules, 47 C.F.R. § 17.47(b). Section 17.47(b) provides that the owner of any antenna structure that is registered with the Commission and has been assigned lighting specifications pursuant to Part 17 “[s]hall inspect at intervals not to exceed 3 months all automatic or mechanical control devices, indicators, and alarm systems associated with the antenna structure lighting to insure that such apparatus is functioning properly.”¹

2. In its waiver request, USCC states that it uses the “Network Operations Center Tower Alarm Monitoring Process” (NTAM) system for all but 187 of its approximately 2,414 FCC-registered towers.² USCC states that its NTAM system “can and does continuously monitor these towers remotely to ensure that lighting failures are detected and rapidly corrected.”³ USCC asserts that inspecting these towers on a quarterly basis is burdensome and expensive and, as a result of the NTAM system, unnecessary.⁴ USCC asks the Commission to waive the quarterly inspection rule to permit annual inspections instead for antenna structures that use the NTAM system.⁵

3. For the reasons set forth below, we grant USCC’s request for relief from its obligation as tower owner under Section 17.47(b) to perform quarterly inspections of the monitoring systems on these towers. Although USCC requests a waiver allowing it to conduct annual rather than quarterly inspections, the Commission has since amended its rules by adding new Section 17.47(c), which authorizes the Wireless Telecommunications Bureau (WTB) to relieve all inspection obligations for

¹ 47 C.F.R. § 17.47(b).

² United States Cellular Corporation Request For Waiver of 47 C.F.R. § 17.47(b), dated and filed July 24, 2014 (*USCC Waiver Request*) at 2-3.

³ *Id.* at 2.

⁴ *Id.*

⁵ *Id.* at 9.

antenna structure owners using monitoring systems that meet the prior waiver criteria.⁶ Accordingly, on our own motion, we treat USCC's waiver request as a petition for relief under Section 17.47(c), find that quarterly inspections are unnecessary for towers monitored using the NTAM system, and relieve USCC of all inspection requirements, including annual inspections, for these towers.

II. BACKGROUND

4. In 2007, the Commission granted requests for limited waiver of Section 17.47(b) filed by American Tower Corporation (ATC) and Global Signal, Inc. (GSI) and permitted the antenna structure owners to conduct annual rather than quarterly inspections.⁷ The Commission concluded in the *ATC/GSI Waiver Order* that the antenna structure owners had demonstrated that they were operating safe and reliable monitoring systems that provided sufficiently robust monitoring of the control devices, indicators, and alarm systems so as to render quarterly inspections unnecessary.⁸ In granting these requests for waiver, the Commission noted that the Airspace and Rules Group of the Federal Aviation Administration (FAA) is not opposed to such waivers "provided the applicant can demonstrate a safe and reliable automatic monitoring system with tracking mechanisms to evaluate the remote monitoring technology."⁹ On delegated authority, WTB subsequently granted requests for limited waivers of Section 17.47(b) filed by other antenna structure owners using advanced monitoring systems.¹⁰

5. In the *Antenna Structure Report and Order* adopted in August 2014, the Commission streamlined and eliminated a number of outdated provisions of the Part 17 rules to improve efficiency, reduce regulatory burdens, and enhance compliance with antenna structure painting and lighting

⁶ See 2004 and 2006 Biennial Regulatory Reviews – Streamlining and Other Revisions of Parts 1 and 17 of the Commission's Rules Governing Construction, Marking and Lighting of Antenna Structures; Amendments to Modernize and Clarify Part 17 of the Commission's Rules Concerning Construction, Marking and Lighting of Antenna Structures, WT Docket No. 10-88, RM-11349, *Report and Order*, 29 FCC Rcd 9787 (2014) (*Antenna Structure Report and Order*).

⁷ See Requests of American Tower Corporation and Global Signal, Inc. to Waive Section 17.47(b) of the Commission's Rules, WT Docket No. 05-326, *Memorandum Opinion and Order*, 22 FCC Rcd 9743 (2007) (*ATC/GSI Waiver Order*).

⁸ See *id.* at 9747 para. 11, 9748 para. 17.

⁹ See *id.* at 9744 para. 4 (citing Brief Comment of Office of Airspace and Rules, FAA, WT Docket No. 05-326, filed December 4, 2006).

¹⁰ See Petition of Optasite Towers L.L.C. for Waiver of Section 17.47(b) of the Commission's Rules, *Memorandum Opinion and Order*, 22 FCC Rcd 18456 (WTB 2007) (*Optasite Waiver Order*); Crown Castle USA Inc. Request for Waiver of 47 C.F.R. § 17.47(b), *Memorandum Opinion and Order*, 22 FCC Rcd 21881 (WTB 2007) (*Crown Castle Waiver Order*); Request of Global Tower LLC for Waiver of 47 C.F.R. § 17.47(b), *Memorandum Opinion and Order*, 23 FCC Rcd 16531 (WTB 2008) (*Global Tower Waiver Order*); Request of Mobilitie, LLC for Waiver of 47 C.F.R. § 17.47(b), *Memorandum Opinion and Order*, 24 FCC Rcd 11949 (WTB 2009); TowerSentry LLC Request for Waiver of 47 C.F.R. § 17.47(b) and Joint Petition of Diamond Communications LLC and Diamond Towers LLC for Waiver of 47 C.F.R. § 17.47(b), *Memorandum Opinion and Order*, 24 FCC Rcd 10274 (WTB 2009); Petition of Insite Towers LLC and TowerCo Assets LLC and TowerCo II LLC for Waiver of 47 C.F.R. § 17.47(b), *Memorandum Opinion and Order*, 25 FCC Rcd 14542 (WTB 2010) (*Insite Waiver Order*); Crown Castle USA Inc., AT&T Services Inc. Request for Waiver of 47 C.F.R. § 17.47(b), *Memorandum Opinion and Order*, 27 FCC Rcd 4313 (WTB 2012); Joint Petition of Diamond Communications LLC, Diamond Towers LLC, Diamond Towers II LLC, and Diamond Towers III LLC for Waiver of 47 C.F.R. § 17.47(b), *Memorandum Opinion and Order*, 27 FCC Rcd 11101 (WTB 2012); American Tower Corporation Request for Waiver of 47 C.F.R. § 17.47, *Memorandum Opinion and Order*, 28 FCC Rcd 294 (WTB 2013) (*American Tower Waiver Order*); Southern Company Services, Inc. Request for Waiver of 47 C.F.R. § 17.47(b), *Memorandum Opinion and Order*, 28 FCC Rcd 300 (WTB 2013) (*Southern Waiver Order*); SBA Communications Corporation and International Tower Lighting, LLC Request for Waiver of 47 C.F.R. § 17.47(b), *Memorandum Opinion and Order*, 29 FCC Rcd 1749 (WTB 2014) (*SBA Waiver Order*).

requirements.¹¹ The *Antenna Structure Report and Order* added to Section 17.47 a provision that exempts antenna structures from quarterly inspection requirements if they are monitored by a system operated from a network operations center (NOC) as long as the system has been found to be sufficiently robust.¹² Specifically, Section 17.47(c) provides that an antenna structure is exempt from the inspection requirements in Section 17.47(b) if it is “monitored by a system that the Wireless Telecommunications Bureau has determined includes self-diagnostic features sufficient to render quarterly inspections unnecessary.”¹³ The Commission noted that the NOC-based monitoring systems approved in prior waiver orders “employ self-diagnostic functions (such as alarm notification, 24-hour polling, and manual contact), an operations center staffed with trained personnel capable of responding to alarms 24 hours per day, 365 days per year,” as well as a backup operations center that can provide the necessary monitoring if the system fails due to a catastrophic event.¹⁴ The Commission reaffirmed the determination in prior orders that systems with these features are sufficiently robust as to make quarterly inspections unnecessary to ensure that the control devices, indicators, and alarm systems on the antenna structures are operating properly.¹⁵ Further, the Commission found that completely eliminating the inspection requirement for qualifying systems with these features would lessen the burden on antenna structure owners without hindering aircraft navigation safety.¹⁶

6. The *Antenna Structure Report and Order* noted that the complete exemption in Section 17.47(c) benefits three specific groups of antenna structure owners.¹⁷ The first group consists of antenna structure owners that were previously granted a waiver for their towers monitored by NOC-based systems. These owners are exempt from all inspection obligations so long as they continue to meet the advanced monitoring obligations in the order granting their waiver request.¹⁸ The second group consists of antenna structure owners that have not yet sought a waiver but use an advanced monitoring system previously approved by the Commission or WTB. These owners may certify that they are eligible for an exemption from the inspection obligations for any antenna structure using the approved NOC-based system.¹⁹ The third group consists of antenna structure owners that employ systems not yet approved by the Commission or WTB. They may continue to petition WTB, which will evaluate such requests under the standards established in prior waiver orders.²⁰

7. USCC filed its waiver request on July 24, 2014. Pursuant to requests from WTB, USCC supplemented the waiver request on January 6, 2015 and March 26, 2015.²¹ USCC states that it owns

¹¹ *Antenna Structure Report and Order*, 29 FCC Rcd at 9788 para. 1.

¹² *Id.* at 9800 para. 31.

¹³ See 47 C.F.R. 17.47(c); see also *Antenna Structure Report and Order*, 29 FCC Rcd at 9800-01 paras. 31-34.

¹⁴ *Antenna Structure Report and Order*, 29 FCC Rcd at 9800 para. 31.

¹⁵ *Id.*

¹⁶ *Id.*

¹⁷ *Id.* at 9801 paras. 33-34.

¹⁸ *Id.* at 9801 para. 34. These antenna structure owners are not required to continue to monitor annually, so long as they meet the other monitoring requirements in the relevant waiver order. See *id.*

¹⁹ *Id.*

²⁰ *Id.* at 9801 paras. 33-34.

²¹ See Letter from Peter M. Connolly, Holland & Knight LLP, to Jeffrey Steinberg, Deputy Chief, Spectrum and Competition Policy Division, WTB (Jan. 6, 2015) (*USCC Supplement I*); Letter from Peter M. Connolly, Holland & Knight LLP, to Jeffrey Steinberg, Deputy Chief, Spectrum and Competition Policy Division, WTB (March 26, 2015) (*USCC Supplement II*). This additional information was provided in response to requests by WTB’s Spectrum and Competition Policy Division via letter dated Dec. 8, 2014 and via telephone on March 9, 2015. See Letter from Jeffrey S. Steinberg, Deputy Chief, Spectrum and Competition Policy Division, WTB, to Peter M. Connolly, Esq., Holland & Knight LLP (Dec. 8, 2014).

and/or maintains approximately 2,414 registered towers that are subject to the Commission's marking and lighting requirements and that it seeks a waiver for all but 187 of these towers and for all towers it will construct in the future served by the NTAM system.²² Further, USCC asserts in its request that the features and functionality of the NTAM system meet the criteria in the *ATC/GSI Waiver Order* and subsequent decisions by WTB or their equivalent, and therefore that the Commission should grant its request for waiver.²³

8. In its waiver request, USCC states that the NTAM system generates an alarm in the event of any failure of the beacon, strobe, or side lights by which USCC lights its towers.²⁴ USCC also states that through the NTAM system it "can and does continuously monitor [its] towers remotely to ensure that lighting failures are detected and rapidly corrected."²⁵ Further, USCC states, the NTAM system "will detect any failure, whether a failure of its tower lighting systems or other alarm systems, far sooner than would be discovered by quarterly inspections, rendering such inspections redundant and wasteful."²⁶ USCC explains that its personnel request a Notice to Airmen (NOTAM) from the FAA immediately after receiving an alarm indicating a lighting failure.²⁷

9. In support of these contentions, USCC describes the following features of the NTAM system:

- (1) *Alarm notification.* USCC states that the NTAM system includes tower light controllers that are part of the larger system for monitoring alarms at each base station.²⁸ The tower light controllers are connected through USCC's wireless system to USCC's National Network Operations Center (NNOC).²⁹ USCC states that it also uses an automated fault management system called Netcool, an IBM web-based application that processes wireless network events and "presents 'event data' to Network Operations Center operators in real time."³⁰

According to USCC, the alarm card at each base station is programmed to accept either a closed or open circuit for each piece of equipment that is alarmed (*e.g.*, door, tower lights, etc.) when the relevant piece of equipment is in a "normal" state. If the relevant piece of equipment fails, USCC states, it either opens or closes the specific alarm circuit and alerts the radio base station alarm controller which, in turn, is connected to USCC's NNOC by leased line circuit or microwave facilities.³¹ USCC explains that each alarm point at the base station is programmed with specific language regarding the equipment it monitors so that personnel at the NNOC can take appropriate action once the alarm is presented on the NNOC's Netcool console. The system also classifies the alarms as "critical" or "major" based on the severity of the problem. For example, USCC states, the failure of a beacon light would be classified as critical, while a tower side light failure would be considered major, "i.e. important but

²² *USCC Waiver Request* at 1, 2. With respect to the 187 towers not included in the waiver request, see paragraph 19 *infra*.

²³ *USCC Waiver Request* at 1-2.

²⁴ *Id.* at 3.

²⁵ *Id.* at 2.

²⁶ *Id.* at 6.

²⁷ *USCC Supplement II* at 4.

²⁸ *USCC Waiver Request* at 3.

²⁹ *Id.* at 3, 4.

³⁰ *Id.* at 4.

³¹ *Id.* at 3.

slightly less urgent than a critical failure.”³²

USCC states that any alarm fault, including a lighting outage, is reported instantaneously to the NNOC through the Netcool system, which “rides” on USCC’s internal communications network.³³ When the NNOC receives a strobe or beacon light fault alarm from a given cell site, USCC states, a NNOC technician immediately calls in a NOTAM to the appropriate FAA facility.³⁴ According to USCC, the fault is also immediately identified by the Netcool fault management tool, and a trouble ticket is created for internal tracking. The NNOC then immediately routes the ticket to the appropriate USCC regional office for investigation and repair of the light.³⁵

USCC states that the types of failures monitored by the NTAM system include failure of the beacon, strobe, or side lights,³⁶ as well as low flash energy, consecutive missed flashes, site communication failure, power failure (AC and/or DC), and low battery.³⁷ In addition, USCC states, the alarm cards themselves are monitored so that if a card were to fail, an alarm would be presented in the system even if the base station were still operational.³⁸ USCC explains that nine of its antenna sites use a motorized “red sleeve filter” which is programmed to cover strobe lights for night use.³⁹ The filters at these nine sites are alarmed, and any filter failure would trigger an alarm.⁴⁰ USCC explains that the rest of the antenna systems have either a separate strobe light for day use and beacon for night use or simply a strobe light with the intensity of the light automatically adjusted for day or night use.⁴¹ USCC states that the photocell that determines when to switch from daytime to nighttime lighting at the antenna sites is also alarmed.⁴²

(2) *24-hour polling.* USCC states that it does not poll its base stations from the NNOC on a regular basis.⁴³ However, USCC explains that the connectivity between base stations and the NNOC is “constant and two-way.”⁴⁴ Any time that link is broken, according to USCC, alarms are presented in the Netcool system.⁴⁵

(3) *Manual contact.* USCC states that it cannot access its lighting systems remotely from the

³² *Id.*

³³ *Id.* at 4.

³⁴ *USCC Supplement II* at 4; *see also USCC Waiver Request* at 5.

³⁵ *USCC Supplement II* at 4.

³⁶ *USCC Waiver Request* at 3.

³⁷ *USCC Supplement II* at 2; *USCC Supplement I* at 2.

³⁸ *USCC Waiver Request* at 5.

³⁹ *USCC Supplement II* at 2.

⁴⁰ *Id.*

⁴¹ *Id.*

⁴² *USCC Waiver Request* at 3.

⁴³ *Id.* at 5; *USCC Supplement I* at 3.

⁴⁴ *USCC Waiver Request* at 5.

⁴⁵ *Id.*; *USCC Supplement I* at 3.

NNOC.⁴⁶ However, USCC states, “the NNOC can check base station status and external alarm status by entering the system at the relevant switch to check the alarm status of the cell sites associated with that switch.”⁴⁷ In addition, USCC states that its technicians manually “interrogate” the lighting and power systems at a given base station when they are dispatched to the site following an alarm.⁴⁸

10. USCC states that its NNOC is staffed with technicians capable of responding to alarms 24 hours per day, seven days a week, 365 days per year.⁴⁹ The primary NNOC is located in Schaumburg, IL.⁵⁰ In the event of a system failure or disaster at the Schaumburg facility, USCC states that it has a fully redundant backup NNOC in Peoria, IL and would activate that facility and transfer all calls and alarms there.⁵¹ The Peoria facility would also be used for long-term relocations. USCC states that it has an additional backup NNOC in Bensenville, IL.⁵² The Bensenville facility is designed for short-term relocations and would be used if, for example, severe weather or other emergency temporarily rendered the Schaumburg facility inaccessible. However, the Bensenville facility could be staffed indefinitely if needed.⁵³ USCC explains that it could also set up an emergency NNOC facility at USCC’s data center in Knoxville, TN.⁵⁴ In addition, USCC states that if the NNOC could not function, each USCC local switching facility would be able to monitor its own base station alarm systems and could provide any necessary notification to the FAA.⁵⁵ According to USCC, all of its NNOC facilities have internal alarms related to operational stability and function.⁵⁶ USCC states that it tests these facilities twice per year to ensure that NNOC functions can be carried out at each facility.⁵⁷ In addition, USCC states that Netcool is a “webtop” program and is accessible from any USCC-owned LAN/WAN access point, (e.g., USCC business office or switch) or from a technician’s home location via USCC’s secure VPN portal.⁵⁸

11. USCC states that the hardware and software for the NNOC “alarming platform” run on Linux servers.⁵⁹ USCC has two Linux servers at both the Schaumburg NNOC facility and the Knoxville data center.⁶⁰ If the Schaumburg NNOC were to experience a power outage, USCC states, there would be an immediate alarm to tell NNOC personnel that NNOC connectivity had been lost to the system. An alarm also would be sent throughout the USCC network by email. In that event, according to USCC, it would switch to the backup server.⁶¹ If both servers failed at the Schaumburg facility, the system would

⁴⁶ *USCC Supplement I* at 3.

⁴⁷ *Id.*

⁴⁸ *Id.*; *USCC Waiver Request* at 8.

⁴⁹ *USCC Waiver Request* at 8; *USCC Supplement I* at 4.

⁵⁰ *USCC Waiver Request* at 4.

⁵¹ *Id.*

⁵² *Id.*

⁵³ *Id.*; *USCC Supplement II* at 3.

⁵⁴ *USCC Supplement II* at 3.

⁵⁵ *USCC Waiver Request* at 5.

⁵⁶ *USCC Supplement I* at 3.

⁵⁷ *USCC Supplement II* at 4.

⁵⁸ *USCC Waiver Request* at 6.

⁵⁹ *USCC Supplement II* at 3.

⁶⁰ *Id.*

⁶¹ *Id.*

be switched to a server in Knoxville.⁶² USCC states that the NNOC has a permanent generator with a 1700-gallon diesel fuel tank capable of maintaining power for up to 48 hours.⁶³ USCC also states that it would schedule refueling immediately during any commercial power outage. If fuel could not be delivered, USCC would move operations to one of the alternate NNOC facilities.⁶⁴

12. USCC notes that its cell sites are operated by commercial electric power, supported by batteries and generators.⁶⁵ Each USCC cell site has at least eight hours of backup battery power or a permanent generator.⁶⁶ If a cell site loses power, USCC states, the site remains in service running on battery power.⁶⁷ If the site has a permanent generator, the generator automatically takes over to supply power to the cell site immediately in the event of a power failure. USCC also states that if there is an extended commercial power outage, it strives to deploy portable generators to those sites remaining on batteries.⁶⁸ Each of these steps is monitored through the NNOC.⁶⁹

13. USCC estimates that its total annual cost to perform quarterly tower inspections is \$683,207 and states that this is burdensome, expensive, and unnecessary.⁷⁰ Further, USCC states that the NTAM system has had no failures and has reliably identified all “NOTAM worthy” lighting outages.⁷¹ USCC notes that between December 12, 2013 and June 12, 2014, the NNOC captured and logged 22,866 tower light alarms, and it followed established FAA reporting procedures in each instance.⁷² USCC further states that it has never been the subject of an FCC forfeiture notice regarding a lighting outage.⁷³

III. DISCUSSION

14. In the *ATC/GSI Waiver Order*, the Commission found that the monitoring systems used by ATC and GSI met the standard for waiver of the quarterly inspection rule⁷⁴ by employing self-diagnostic functions (such as alarm notification, 24-hour polling, and manual contact), a NOC staffed with trained personnel capable of responding to alarms 24 hours per day, 365 days per year, and a backup operations center that had specific procedures for transferring the monitoring duties of the system in the event of a catastrophic failure at the primary NOC.⁷⁵ Specifically, the Commission determined that

⁶² *Id.*

⁶³ *USCC Supplement I* at 2.

⁶⁴ *Id.*

⁶⁵ *USCC Supplement II* at 2.

⁶⁶ *USCC Supplement I* at 3; *USCC Supplement II* at 2.

⁶⁷ *USCC Supplement II* at 2.

⁶⁸ *Id.*

⁶⁹ *Id.*

⁷⁰ *USCC Supplement I* at 4; *USCC Waiver Request* at 2.

⁷¹ *USCC Waiver Request* at 5.

⁷² *Id.* USCC notes that in approximately the same time period, those alarms generated 2736 trouble tickets and 825 NOTAMs. *See id.*

⁷³ *Id.* at 8.

⁷⁴ *See* 47 C.F.R. § 1.925(b)(3) (the Commission may grant a request for waiver if it is shown that: “(i) The underlying purpose of the rule(s) would not be served or would be frustrated by application to the instant case, and that a grant of the requested waiver would be in the public interest; or (ii) In view of unique or unusual factual circumstances of the instant case, application of the rule(s) would be inequitable, unduly burdensome or contrary to the public interest, or the applicant has no reasonable alternative”).

⁷⁵ *See ATC/GSI Waiver Order*, 22 FCC Rcd at 9745 paras. 6-7 (ATC’s Eagle monitoring system), 9747-48 para. 14 (GSI’s Hark monitoring system). *See also Antenna Structure Report and Order*, 29 FCC Rcd at 9799-9800 para. 30.

monitoring systems with the above-mentioned features are sufficiently robust as to make quarterly inspections unnecessary to ensure that the control devices, indicators, and alarm systems on the antenna structures are operating properly.⁷⁶ WTB made similar findings on delegated authority when it subsequently granted a number of other requests for limited waivers of Section 17.47(b) filed by antenna structure owners using advanced monitoring systems.⁷⁷ In the *Antenna Structure Report and Order*, the Commission determined that monitoring systems meeting these criteria would support relief from all periodic inspection requirements, not merely extension to an annual cycle, and it codified this determination in a rule.⁷⁸

15. As discussed below, we grant USCC's request for relief because its NTAM system meets the standard adopted by the Commission in the *ATC/GSI Waiver Order*, as well as subsequent waiver orders adopted by WTB on delegated authority. Accordingly, consistent with the Commission's holding in the *Antenna Structure Report and Order*, application of the quarterly inspection requirements of Section 17.47(b) to USCC's towers is not necessary to ensure that the control devices, indicators, and alarm systems on the antenna structures are operating properly. We determine that the monitoring system used by USCC meets this purpose with self-diagnostic features that ensure timely detection of alarm system failures, an operations center staffed with trained personnel capable of responding to alarms 24 hours per day, 365 days per year, and a backup operations center that can monitor systems in the event of catastrophic failure.

16. We find that USCC's NTAM system is similar or equivalent to the monitoring systems evaluated in prior waiver orders because it has continuous and permanent two-way links between tower sites and the response center, timely reporting of potential problems, a continuously staffed response center, 24-hour polling of both lighting and communications systems (or the equivalent), on demand interrogation capabilities, backup response centers, and essentially uninterrupted communications between the response center and the towers during power outages.⁷⁹ Although USCC does not poll its sites remotely from the NNOC, the NNOC's link to all base stations is continuous and "real time," and the system generates an alarm whenever that link is broken.⁸⁰

17. For the reasons cited in the earlier waiver orders, we conclude that USCC is operating a safe and reliable monitoring system with tracking mechanisms to evaluate the remote monitoring technology. Moreover, features of this system provide sufficiently robust monitoring of the control devices, indicators, and alarm systems so as to render quarterly inspections unnecessary.⁸¹ The NTAM system, like systems that previously supported a waiver, reliably diagnoses problems, including any failures of control devices, indicators, and alarm systems, within real time.⁸² Indeed, such advanced

⁷⁶ See *ATC/GSI Waiver Order*, 22 FCC Rcd at 9747 para. 11, 9748 para. 17; see also *SBA Waiver Order*, 29 FCC Rcd at 1751-52 paras. 6-7, 1754 para. 13; *American Tower Waiver Order*, 28 FCC Rcd at 295-97 paras. 6-7, 298 para. 10; *Insite Waiver Order*, 25 FCC Rcd at 14544-45 paras. 6-7, 14546 para. 10.

⁷⁷ See *supra* n.10.

⁷⁸ *Antenna Structure Report and Order*, 29 FCC Rcd at 9800-01 paras. 31-32 and Appendix B (final rules); see also 47 C.F.R. § 17.47(c). The Commission noted in the *Antenna Structure Report and Order* that antenna structure owners that employ systems not yet approved will be evaluated by WTB under the standards that have already been established in prior waiver orders. See *Antenna Structure Report and Order*, 29 FCC Rcd at 9801 para. 34.

⁷⁹ See *ATC/GSI Waiver Order*, 22 FCC Rcd at 9747 para. 11, 9748 para. 17.

⁸⁰ See *USCC Waiver Request* at 5; *USCC Supplement I* at 3; see also *Southern Waiver Order* at 28 FCC Rcd 302 para. 6 (monitoring system would alert NOC personnel "almost immediately" upon loss of communication between NOC and any tower).

⁸¹ See, e.g., *ATC/GSI Waiver Order*, 22 FCC Rcd at 9747 para. 11, 9748 para. 17; *Global Tower Waiver Order*, 23 FCC Rcd at 16531 para. 9; *Crown Castle Waiver Order*, 22 FCC Rcd at 21884 para. 9; *Optasite Waiver Order*, 22 FCC Rcd at 18456 para. 8.

⁸² See *ATC/GSI Waiver Order*, 22 FCC Rcd at 9748 para. 18.

technology provides the benefits of more rapid response where there has been a lighting failure, and thus the public interest is served with respect to aircraft safety. In addition, granting relief to USCC will save substantial resources that would otherwise be devoted unnecessarily to quarterly inspections where it has deployed this advanced technology.

18. In addition, although USCC requested a waiver allowing it to conduct annual inspections in lieu of quarterly inspections, we do not require it to conduct inspections on any periodic basis, including annually. As noted above, Section 17.47 as revised in the *Antenna Structure Report and Order* exempts from any periodic monitoring all antenna structures that WTB finds are monitored by a qualified NOC-based system.⁸³ In light of our approval of USCC's NTAM system in this Memorandum Opinion and Order, any other antenna structure owners who use the same system will be exempt from the inspection requirements in Section 17.47(b), provided they meet the certification requirements, and will not have to inspect on any periodic basis. Consistent with this, we do not require USCC to inspect on any periodic basis, whether quarterly or annually.

19. Finally, we note that USCC excludes 187 of its towers from its waiver request because the photocells that determine when to switch from daytime to nighttime lighting at these sites are not currently configured to report photocell failure and low flash energy to the NNOC.⁸⁴ USCC notes that these towers remain alarmed with respect to their strobe, beacon, and side lights and that in almost all instances USCC is rapidly made aware of any problems with its photocells by persons living near the towers.⁸⁵ USCC states that it is excluding these towers from its waiver request out of an abundance of caution and will continue to perform quarterly inspections at these sites.⁸⁶ Accordingly, the relief provided herein does not include these 187 towers, which remain subject to the quarterly inspection requirement.

IV. CONCLUSION

20. For the reasons discussed above, we grant USCC relief under Section 17.47(c) from its obligation to perform quarterly inspections under Section 17.47(b) for its towers monitored using the NTAM system. The NTAM system reliably diagnoses problems in real time and therefore renders application of Section 17.47(b) unnecessary to ensure that control devices, indicators, and alarm systems on the antenna structures are operating properly. Moreover, our action will relieve USCC of the burden

⁸³ See 47 C.F.R. 17.47(c); see also *Antenna Structure Report and Order*, 29 FCC Rcd at 9800-01 paras. 31-34.

⁸⁴ *USCC Waiver Request* at 6. USCC notes that it is replacing those photocells gradually and should conclude that process in the next several years. *Id.*

⁸⁵ *Id.* at 4.

⁸⁶ *Id.* As USCC notes, this is consistent with WTB's 2013 *Southern Waiver Order*. See *id.* at 6; see also *Southern Waiver Order*, 28 FCC Rcd at 304 para. 9 (as agreed by Southern, limiting relief to those towers where the system was configured to report both photocell failure and low flash energy).

of performing unnecessary quarterly inspections. In addition, our action will further encourage tower owners to invest in state-of-the-art technologies so that they, too, will become capable of continuous monitoring of both their lighting systems and control devices.

V. ORDERING CLAUSE

21. Pursuant to Sections 4(i), 303(q), and 303(r) of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 303(q), 303(r), and pursuant to Sections 0.131, 0.331, and 17.47(c) of the Commission's Rules, 47 C.F.R. §§ 0.131, 0.331, 17.47(c), the Request for Waiver filed by United States Cellular Corporation IS GRANTED in substance and additional relief IS ORDERED as described herein.

FEDERAL COMMUNICATIONS COMMISSION

Chad Breckinridge
Associate Chief, Wireless Telecommunications Bureau